



INSTALLATION GUIDE

SPRINTER VAN SIDE STEPS - 144"

SP1114B



TOOLS REQUIRED (NOT INCLUDED)

- | | |
|--------------------|------------------|
| + IMPACT DRIVER | + RIVET NUT TOOL |
| + DRILL | + 9/16" SOCKET |
| + 3/8" DRIVER BIT | + 7/16" SOCKET |
| + 3/16" DRILL BIT | + RATCHET |
| + 17/32" DRILL BIT | + BLUE LOCTITE |
| + 7/32" ALLEN KEY | + TAPE MEASURE |
| + 5/32" ALLEN KEY | + MARKER |

INSTALL INFO

TIME TO INSTALL THIS PRODUCT: 2 HOURS

Additional help is suggested for a few of the install steps.

BEFORE YOU START

Please inspect the product and packaging upon delivery to ensure there are no issues and that all parts and hardware are accounted for.

Contact us ASAP if anything is missing at:

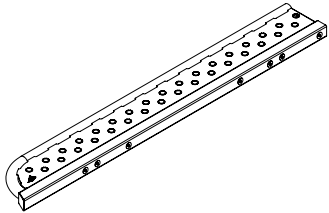
support@flatlinevanco.com

BEFORE YOU START

All Flatline Van Co products must be properly assembled and secured before attaching to your vehicle. Improper attachment could result in an automobile accident, and could cause serious bodily injury or death to you or to others involved. You are responsible for assembling and securing Flatline Van Co products to your vehicle, checking the mounting points and attachments prior to use, and regularly inspecting the products for wear and or damage. We always recommend you use a professional to install any aftermarket accessories to your vehicle. If you have no mechanical experience and are not thoroughly familiar with the installation procedures, you must have the product installed by a professional installer or other qualified persons. The responsibility is yours and must be taken seriously for everyone's safety.

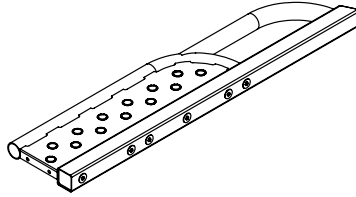


PACKAGE CONTENTS



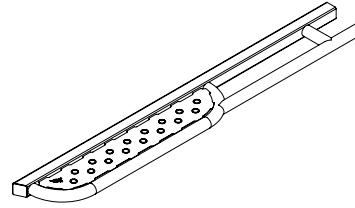
PASSENGER STEP
WELDMENT - FRONT

QTY: 1



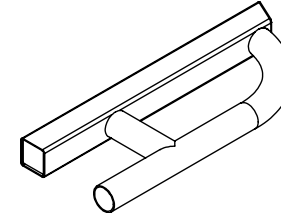
PASSENGER STEP
WELDMENT - REAR

QTY: 1



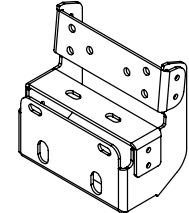
DRIVER STEP WELDMENT -
FRONT

QTY: 1



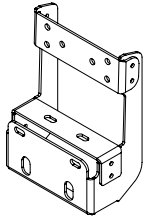
DRIVER STEP WELDMENT -
REAR

QTY: 1



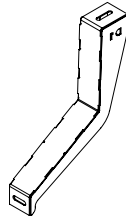
SHORT HANGAR BRACKET

QTY: 5



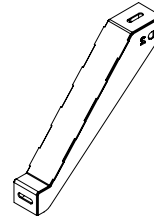
TALL HANGAR BRACKET

QTY: 2



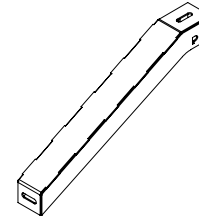
DRIVER SIDE BRACE D1

QTY: 1



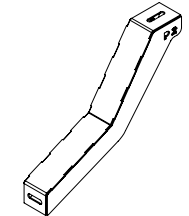
DRIVER SIDE BRACE D2

QTY: 2



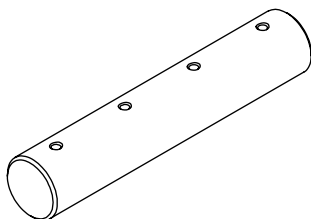
PASSENGER SIDE BRACE P1

QTY: 1



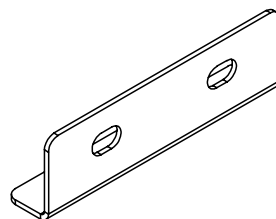
PASSENGER SIDE BRACE P2

QTY: 2



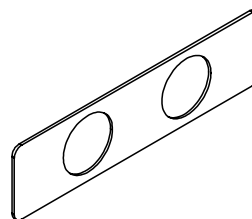
BAYONET

QTY: 2



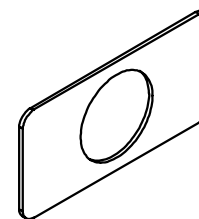
JOINING BRACKET

QTY: 2



BRACKET SPACER - DOUBLE

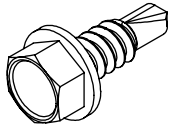
QTY: 7



BRACKET SPACER - SINGLE

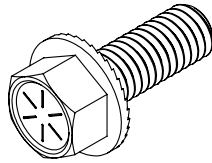
QTY: 6

HARDWARE



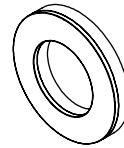
1/4-20 x 0.75 HEX HEAD
DRILLING SCREW

QTY: 70



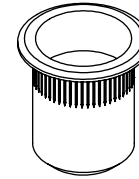
3/8 x 1 SERRATED FLANGED
HEX HEAD SCREW

QTY: 30



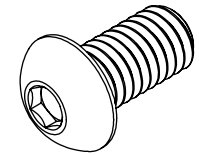
3/8 BONDED SEALING
WASHER

QTY: 20



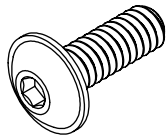
3/8-16 x 0.027-0.15 HEAVY
DUTY RIVET NUT

QTY: 6



3/8-16 x 0.75 BUTTON
HEAD HEX DRIVE SCREW

QTY: 20



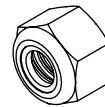
1/4-20 x 0.75 FLANGED
BUTTON HEAD HEX SCREW

QTY: 10



1/4 FLAT WASHER

QTY: 2



1/4 NYLON LOCKNUT

QTY: 2

INSTALL

STEP | 01 WELDMENT ASSEMBLY

1.1 Assemble Driver's Side Step: Insert a **Bayonet** into the tubing of the **Front Driver Side Step Weldment (FIG 2)**. Align the first two holes of the **Bayonet** to the holes of the weldment and attach using (2) **1/4 x 0.75 Flanged Button Head Screws** with **Loctite**. Slide the **Rear Driver Step Weldment** onto the protruding **Bayonet** and attach using the same hardware and method (**FIG 3**).

1.2 Install Joining Bracket: Attach the **Joining Bracket** across from the bayonet joint using (2) **3/8-16 X 1 Flanged Hex Head Screws** with **Loctite (FIG 4+5)**.

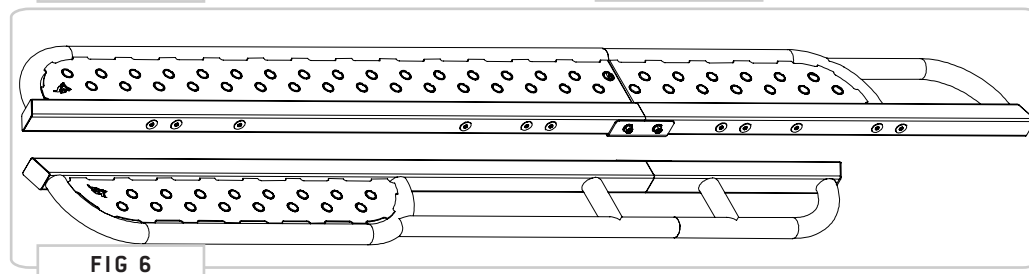
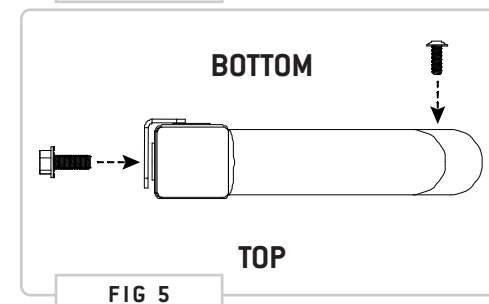
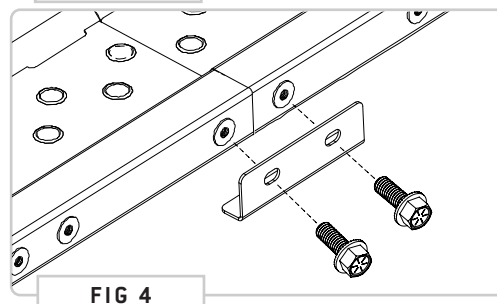
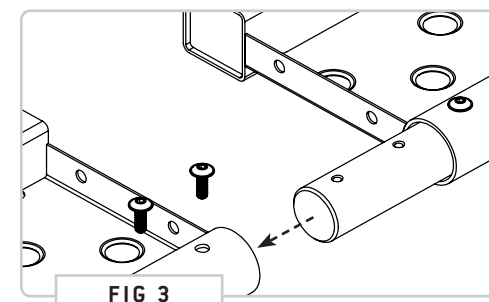
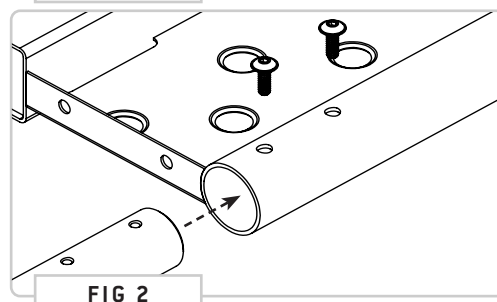
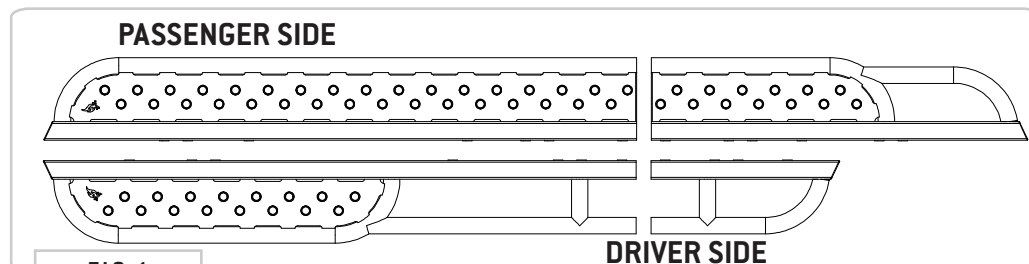
1.3 Assemble Rear Passenger's Step: Repeat **Steps 1.1 and 1.2** for the Passenger Step using the same hardware and method.

1.4 Tighten All Step Screws: Once aligned, fully tighten all fasteners.

NOTE - The **Joining Bracket** is used to help with alignment of the two weldments and can be clamped in place while tightening to ensure alignment.

TOOLS REQUIRED FOR THIS STEP:

- + 5/32" ALLEN WRENCH
- + 9/16" SOCKET
- + RATCHET
- + LOCTITE

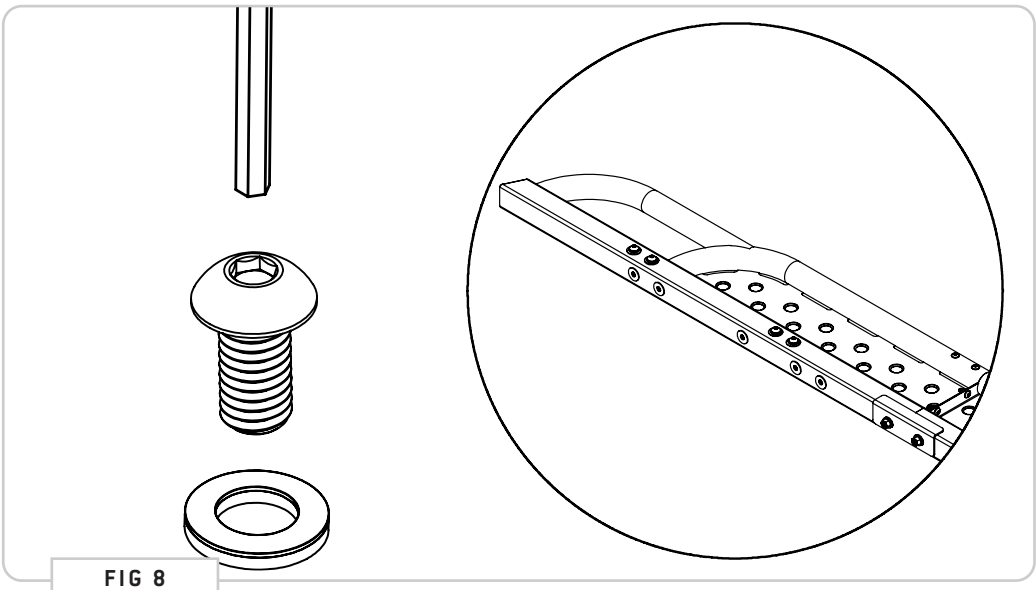
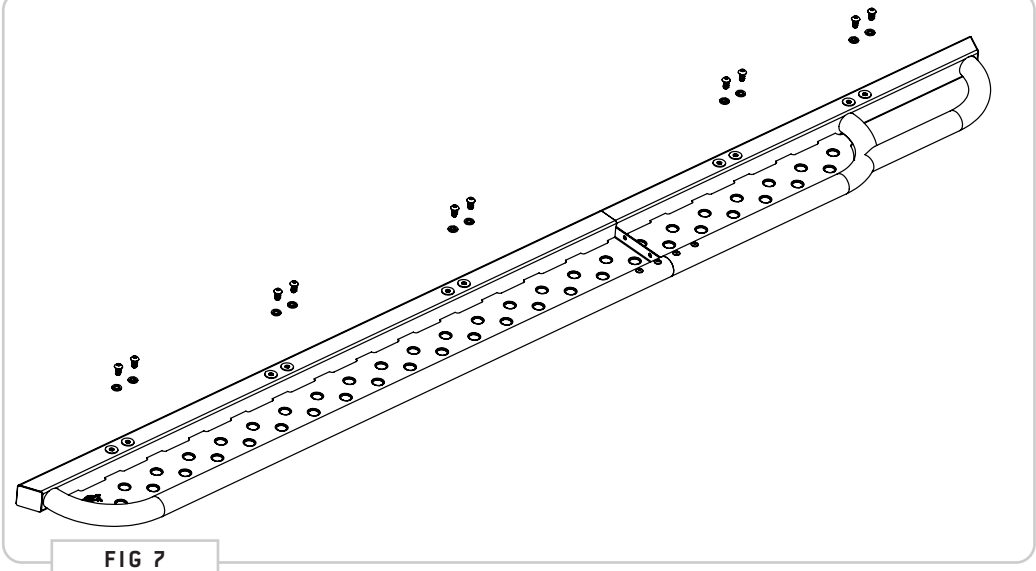


STEP | 02 SEALING WELDMENTS

2.1 Reveal the bottom-most set of mounting holes by turning the assembled steps upside-down. These will need to be plugged using **3/8-16x0.75 Button Head Hex Drive Screws** and **3/8 Bonded Sealing Washers** in order to protect them from the elements. The first graphic depicts the locations for the Passenger Side Weldment.

2.2 Affix a **Bonded Sealing Washer** to the screw and apply Loctite to the threads before tightening it down into the weldment with a 7/32" Allen Key. The screw should be turned to the point where the conical sealing washer flattens and the black rubber is set tight against the weldment.

2.3 Repeat this process for the Driver's Side Weldment.



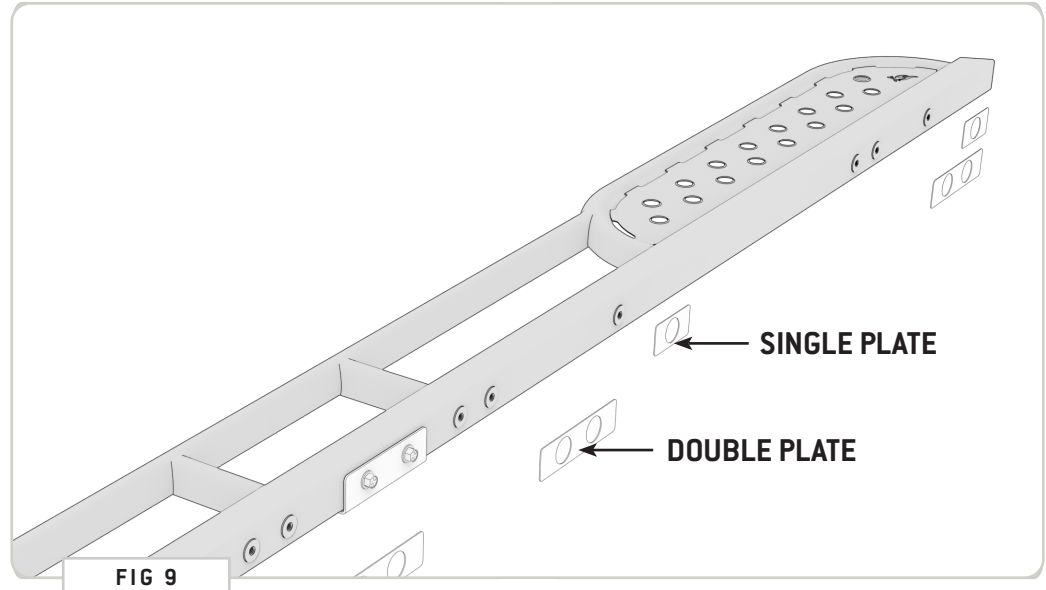
TOOLS REQUIRED FOR THIS STEP: + MASKING TAPE

STEP | 03A ASSEMBLE SIDE STEPS

+ “SOLO INSTALL METHOD”

This guide demonstrates an alternate mounting method that doesn't require measuring under the van. Ideal for solo installers.

3.1a Attach Sandwich Plates to Steps: Position the **Double and Single Sandwich Plates** to the **Side Step Weldments** in the locations shown in **FIG 9** using masking tape (**FIG 10**). This will make installing the **Hangar Brackets** and **Side Step Braces** easier in the next steps.



TOOLS REQUIRED FOR THIS STEP: + 9/16" WRENCH/SOCKET

STEP | 03A ASSEMBLE SIDE STEPS

3.2a Identify Bracket Types: Notice in FIG 11 that there are “*Tall*” and “*Short*” Hanger Brackets. The **Driver Side Step** features (1) Short Hanger Bracket and (2) Tall Hanger Brackets, while the **Passenger Step** has only (4) Short Brackets.

3.3a Attach Hanger Brackets to Steps: Attach Hanger Brackets to the locations shown using (2) 3/8-16 x 1 Flanged Hex Head Screws (FIG 12).

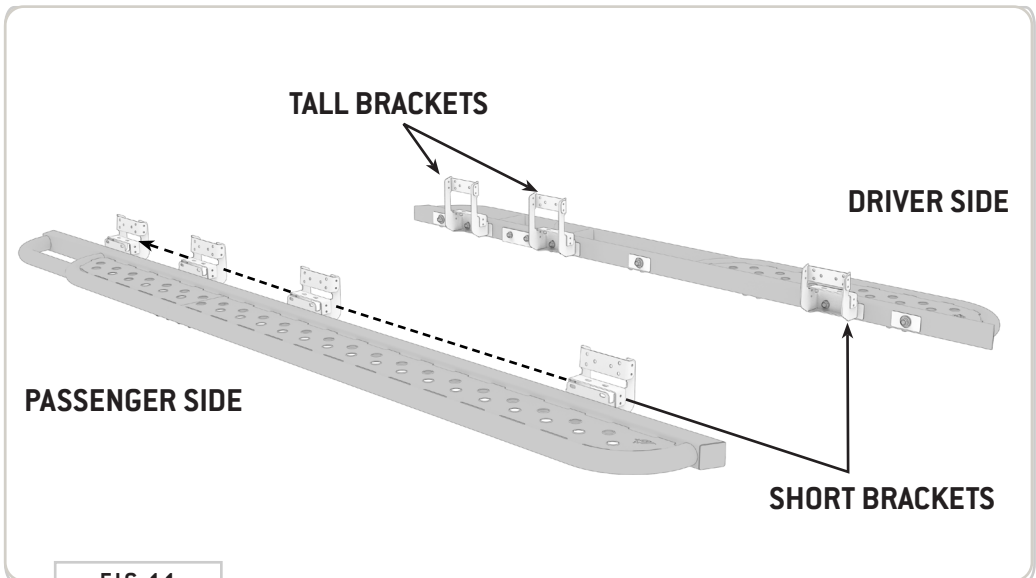


FIG 11

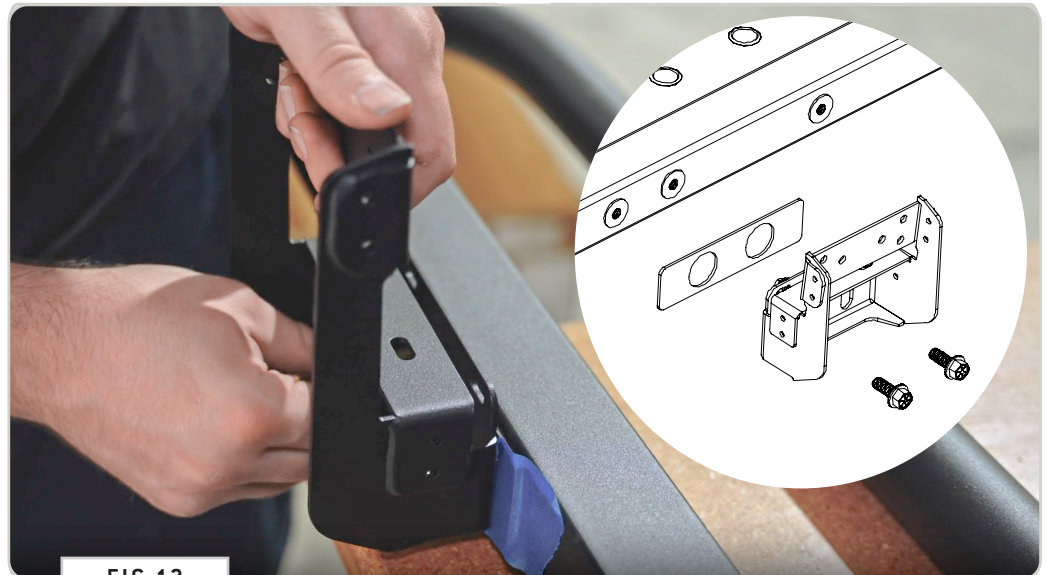


FIG 12

TOOLS REQUIRED FOR THIS STEP: + 9/16" WRENCH/SOCKET

STEP | 03A ASSEMBLE SIDE STEPS

3.4a Identify Brace Types: Notice in FIG 13 that there are different types of Braces on each side of your Side Steps. The **Driver Side Step** features (1ea) "D1" and (2ea) "D2" Braces, while the **Passenger Step** has (1ea) "P1" and (2ea) "P2" Braces.

3.5a Attach Braces to Steps: Attach Hangar Brackets to the locations shown using (1) 3/8-16 x 1 Flanged Hex Head Screws (FIG 14).

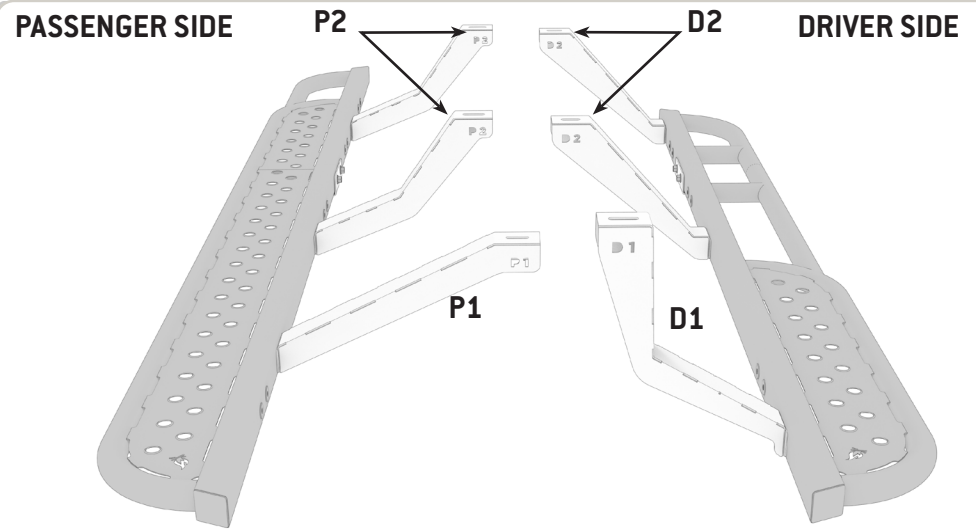


FIG 13



FIG 14

TOOLS REQUIRED FOR THIS STEP:

STEP | 04A INSTALL SIDE STEPS

4.1a Position Step Under Van: Carefully lift up your **Side Step Assembly** with a floor jack or helper (**FIG 15**). Ensure the **Pinch Weld** slips into the gap in the **Hangar Bracket** (**FIG 16**).



FIG 15

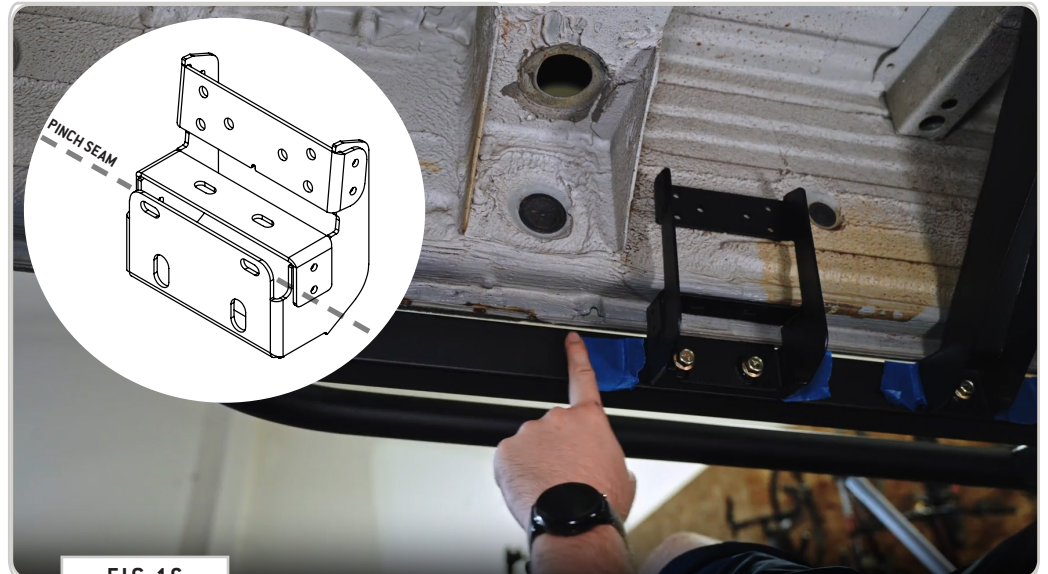


FIG 16

STEP | 04A INSTALL SIDE STEPS

4.2a Mark Brace Mounting Locations: Use a Marker to mark hole positions under each brace (FIG 17). Lower your Step and proceed to drill out mounting holes.

NOTE - To ensure proper placement of *Side Step Braces*, cross reference your marks to those on **Pages 17 and 18** of this guide.

4.3a Drill Mounting Holes: Drill a pilot hole using a 3/16" Drill Bit (FIG 18) and expand using a 17/32" Drill Bit (FIG 19). Clean up the drill hole using a file or countersink.

4.4a Install Rivet Nut: Using a Rivet Nut Tool, install your Rivet Nut into the drilled hole (FIG 20).

NOTE - We recommend using a pneumatic or electric drill adapter rivet nut tool for this, although a manual rivet nut tool can work if you have enough ground clearance. We like the Astro Tools ADN38 XL model for a drill adapter.

4.5a Repeat for All Mounting Holes: Repeat this process for all mounting holes.

TOOLS REQUIRED FOR THIS STEP:

- + POWER DRILL
- + 3/16" DRILL BIT
- + 17/32" DRILL BIT
- + IMPACT DRIVER
- + RIVET NUT TOOL



FIG 17



FIG 18



FIG 19



FIG 20

STEP | 04A INSTALL SIDE STEPS

4.6a Lift Step Back into Place and Hand-Tighten: Attach each **Brace** to the Van using **(1ea) 3/8-16 x 1 Flanged Hex Head Screw (FIG 21)**.

NOTE - Check to make sure you are happy with the alignment of your Side Step at this time. At this point, you should still have *back-and-forth and left-to-right* adjustment.

4.7a Secure Hangar Brackets: Drive **(2ea) 1/4-20 x 0.75 Hex Drive Self Tapping Screws** through the *lower mounting surface* of the **Hangar Bracket** to secure them to the van **(FIG 22)**.

TOOLS REQUIRED FOR THIS STEP:

- + 3/4" WRENCH/SOCKET
- + 9/16" WRENCH/SOCKET

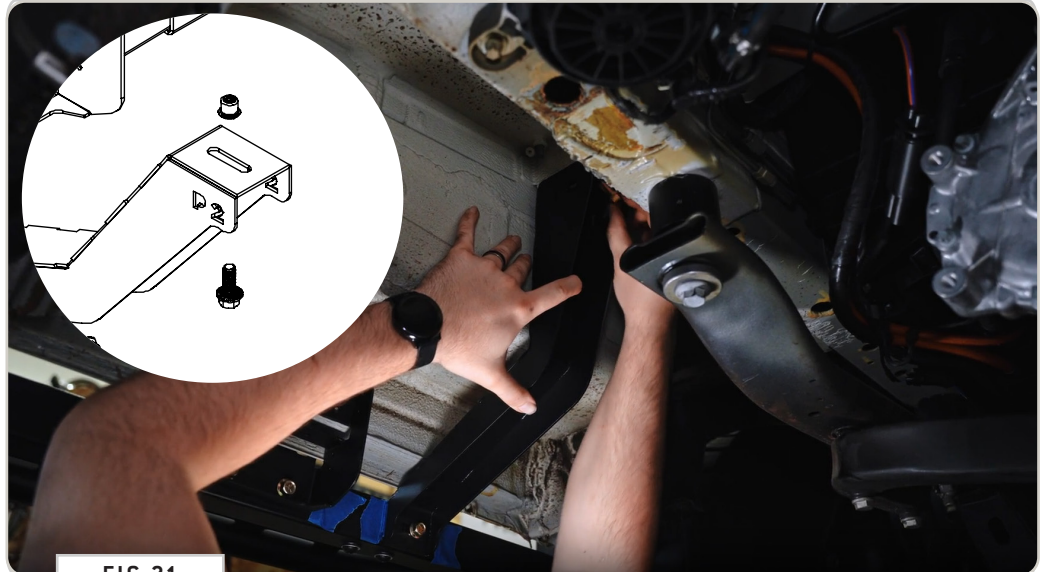


FIG 21



FIG 22

STEP | 04A INSTALL SIDE STEPS

4.8a Secure Hangar Brackets: Move to the outside of the van and drive (2ea) 1/4-20 x 0.75 Hex Drive Self Tapping Screws through the *exterior mounting surface* of the Hangar Bracket to further secure them to the van (FIG 23).

NOTE - You'll need an extension to reach this area of the van.

4.9a Secure Hangar Brackets: Back under the van, drive *at least three* 1/4-20 x 0.75 Hex Drive Self Tapping Screws through the *upper mounting surface* of the Hangar Bracket to finish the install of the Hangar Brackets (FIG 24).

TOOLS REQUIRED FOR THIS STEP:

- + 3/4" WRENCH/SOCKET
- + 9/16" WRENCH/SOCKET



FIG 23



FIG 24

STEP | 04A INSTALL SIDE STEPS

4.10a Final Side Step Alignment: Check to make sure you are happy with the alignment of your Side Step at this time. At this point, you should still have *up-and-down* adjustment.

NOTE - You'll need an extension to reach this area of the van.

4.11a Tighten All Fasteners: Go back through and tighten all fasteners.

4.12a Attach Step Weldments Together: Finalize the install by joining the Passenger Rear and Front Step together using (2) 1/4-20 x0.75 Flanged Button Head Screws, 1/4" Flat Washers and Locknuts (FIG 24).

TOOLS REQUIRED FOR THIS STEP:

- + 3/4" WRENCH/SOCKET
- + 9/16" WRENCH/SOCKET



FIG 23

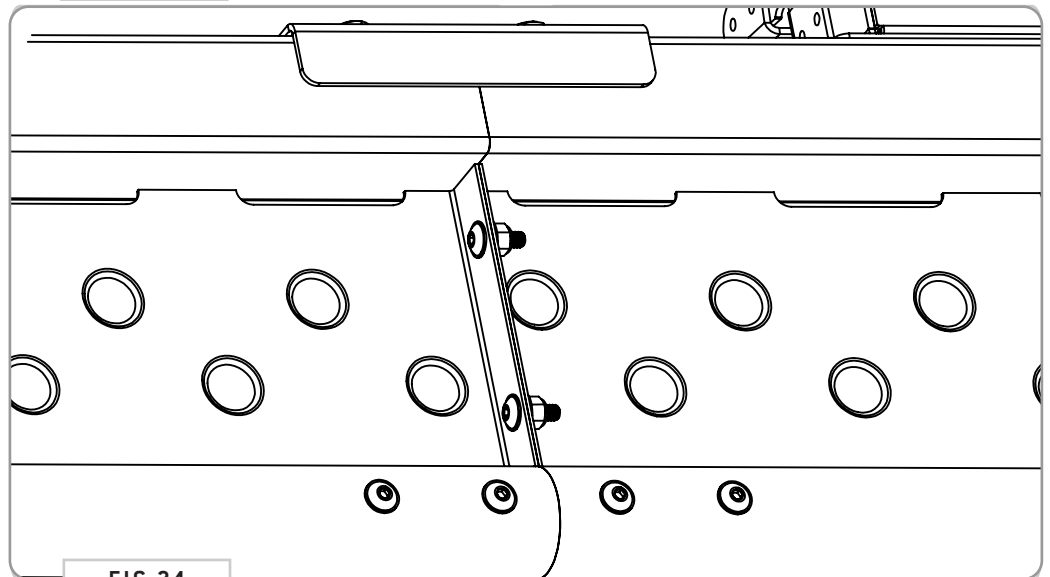


FIG 24

STEP | 04B INSTALL SIDE STEPS

Now we will begin to measure and mark the locations of where to mount each **Hangar Bracket** along the welded pinch seam of your van body.

For 3rd generation Sprinters (VS30 chassis) [2019+]

4.1b Using the front jack point as your reference, layout the bracket locations according to the dimensions listed on the right.

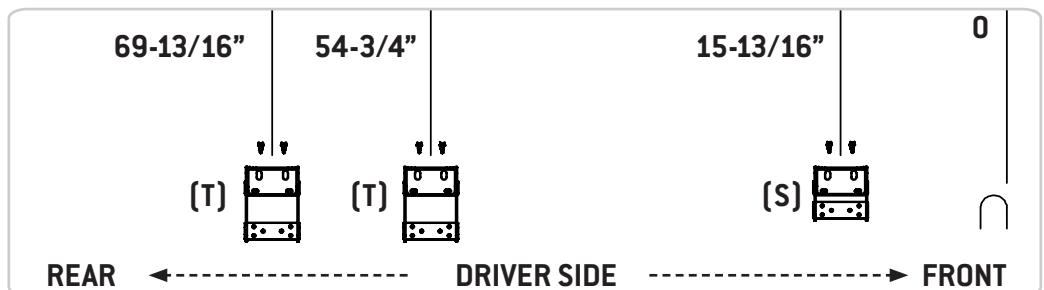
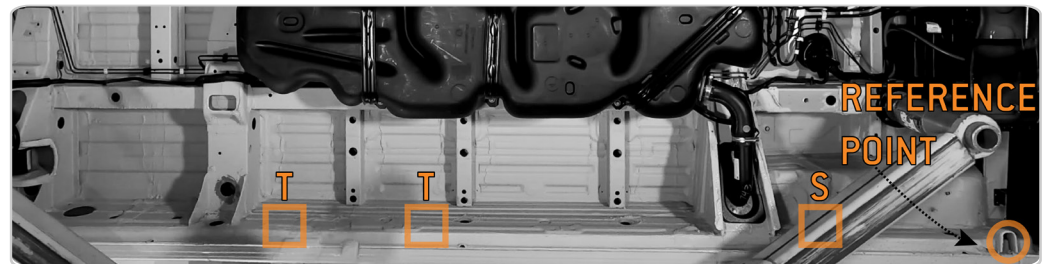
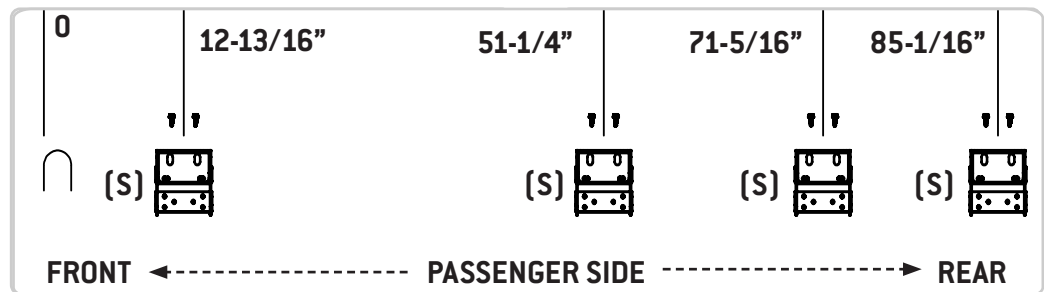
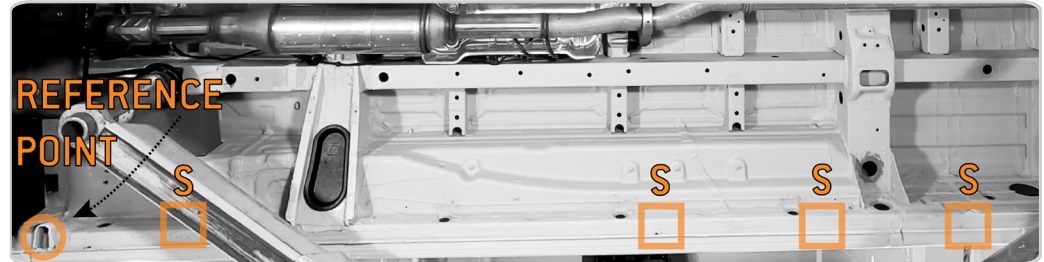
For 2nd generation Sprinters (NCV3 chassis) [2007-2018]

4.2b Using the body seam as your reference, lay out the bracket locations with an inch added to each of the dimensions listed. The body seam is where the front door meets the front wheel well panel. There is an indent on the undercarriage where this seam lies.

NOTE - These are centerline dimensions. Your mark on the pinch seam will align with the centerline notch cut into the Hangar Bracket. Also note the labels next to the brackets in the diagram; the short brackets are labeled "S" and the tall brackets are labeled "T". The two tall brackets go to the rear of the van on the driver side as shown.

NOTE - Ensure that your marks are accurate. While there is a small amount of adjustment built into the bracket mount holes for tolerance, labeling your marks for each bracket type as you go is a good way to avoid placing the wrong bracket in the wrong location.

TOOLS REQUIRED FOR THIS STEP: + TAPE MEASURE
+ MARKER



FVC SIDE STEP SERVICE BULLETIN: HANGAR BRACKET MODIFICATIONS

Applies to: Sprinter Cargo Vans with mounted undercarriage accessories or Sprinter Passenger Vans (FIG A) with interfering factory components (FIG B).

Issue: Certain factory or aftermarket undercarriage accessories (e.g., auxiliary heaters, A/C units, water tanks) may interfere with the standard installation location of the **Side Step Hangar Brackets**. This interference can prevent proper seating of the bracket against the pinch seam.

Solution: The **Hangar Brackets** may need to be modified by trimming the top portion of the bracket to provide the necessary clearance around existing accessories mounted to the van's undercarriage.

Important Note: The need for modification is variable based on the configuration of the van. Always perform a dry fit to determine if trimming is necessary. The modification should only be performed on the **Hangar Brackets** themselves and should not compromise the mounting holes used to attach the bracket to the van body.

TOOLS REQUIRED FOR THIS STEP:



FIG A



FIG B

FVC SIDE STEP SERVICE BULLETIN: HANGAR BRACKET MODIFICATIONS

1. Identify Interference Points: Before drilling any pilot holes, dry fit the **Hangar Bracket** against the **Pinch Seam** at its marked location (refer to **Step 04B, section 4.1b + 4.2b**). Mark the specific area of the bracket that conflicts with the undercarriage accessory (e.g., fuel tank straps, plastic molding, accessory housing).

2. Mark the Cut Line: Mark a line along the top-sides of the **Hangar Bracket** indicating the material that needs to be removed to clear the obstacle (**FIG C**).

3. Secure the Bracket: Secure the **Hangar Bracket** firmly in a bench vise, ensuring the section to be cut is easily accessible and the bracket is stable.

4. Perform the Cut: Using an angle grinder with a metal cutting wheel, carefully and precisely cut along the marked line. Exercise caution to ensure a straight, clean cut and avoid removing more material than necessary (**FIG D**).

Safety Note: Wear appropriate PPE. Sparks and hot metal fragments will be produced.

5. Clean and Finish: After cutting, smooth any sharp edges or burrs left by the cutting process (**FIG E**).

6. Verify Clearance (Dry Fit): Re-dry fit the modified Hangar Bracket to the van's pinch seam to confirm that sufficient clearance has been achieved and the bracket now sits flush against the pinch seam and aligns with the centerline notch (**FIG F**).

7. Proceed with Installation: Once clearance is confirmed, proceed with the rest of **Step 04B**, beginning with drilling the pilot holes (**Step 4.4b**) and securing the bracket (**Step 4.5b**).

TOOLS REQUIRED FOR THIS STEP:

- + ANGLE GRINDER WITH METAL CUTOFF WHEEL
- + BENCH VISE
- + SAFETY GLASSES AND GLOVES
- + METAL FILE

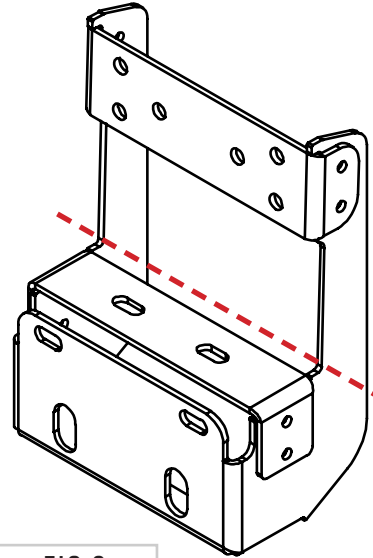


FIG C



FIG D



FIG E



FIG F

FVC SIDE STEP SERVICE BULLETIN: HANGAR BRACKET MODIFICATIONS

The **D1 Brace (FIG G)** is a supplemental bracket designed to provide extra rigidity for the Side Step assembly. Due to the fixed location of the **Auxiliary Heater Lines (FIG H)**, the **D1 Brace** cannot be installed as directed.

Solution Options:

Option 1: Omit the D1 Brace

If the auxiliary heater lines cannot be safely moved, the simplest solution is to omit the installation of the **D1 Brace** entirely.

The Side Step system will still be securely fastened using the **Hangar Brackets** and will function safely for its intended use (as a step).

NOTE - Omitting the **D1 Brace** will result in a minor reduction in the step's overall stiffness compared to an installation where the **D1 Brace** is used.

Option 2: Reroute Auxiliary Heater Lines

If maximum step rigidity is desired, the auxiliary heater lines must be safely rerouted to clear the area required for the **D1 Brace**.

This process requires specialized knowledge and tools to disconnect, reroute, and reconnect the lines.

WARNING: This work involves handling pressurized fluid and/or fuel lines. Extreme caution must be taken, and it is highly recommended that this task be performed by a certified technician.

TOOLS REQUIRED FOR THIS STEP:



FIG G



FIG H

STEP | 04B INSTALL SIDE STEPS

4.3b Seat the **Hangar Bracket** into place along the pinch seam and line up your mark with the center of the bracket.

4.4b Mark the center of each hole as pictured in the first illustration and drill out your pilot holes using a 3/16" Drill Bit. Be sure to drill from the outside of the van.

4.5b Replace the **Hangar Bracket** and drive four **1/4x0.75 Hex Head Drilling Screws** into the pilot holes using an Impact Driver and 7/16" Socket.

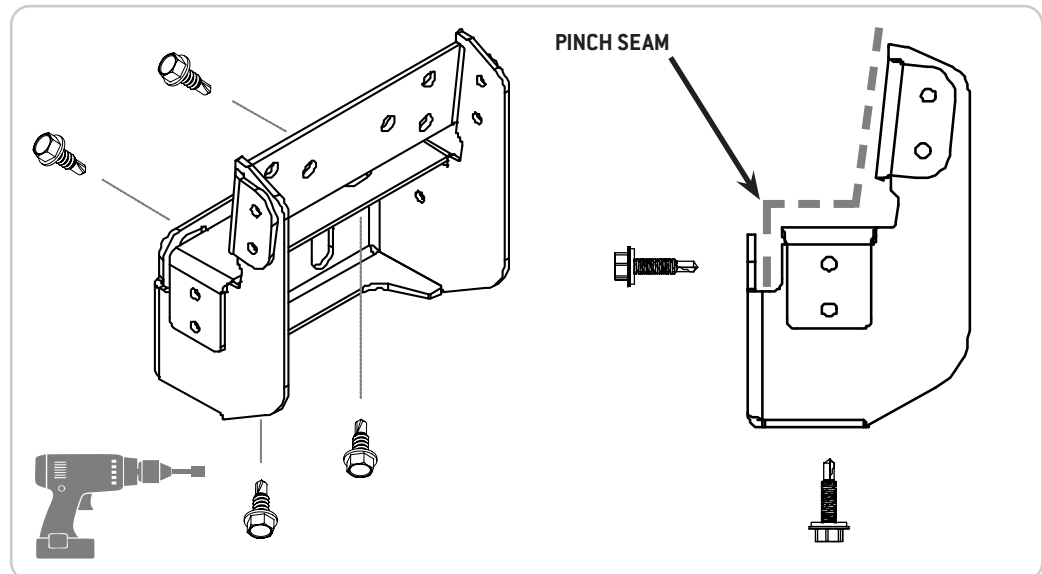
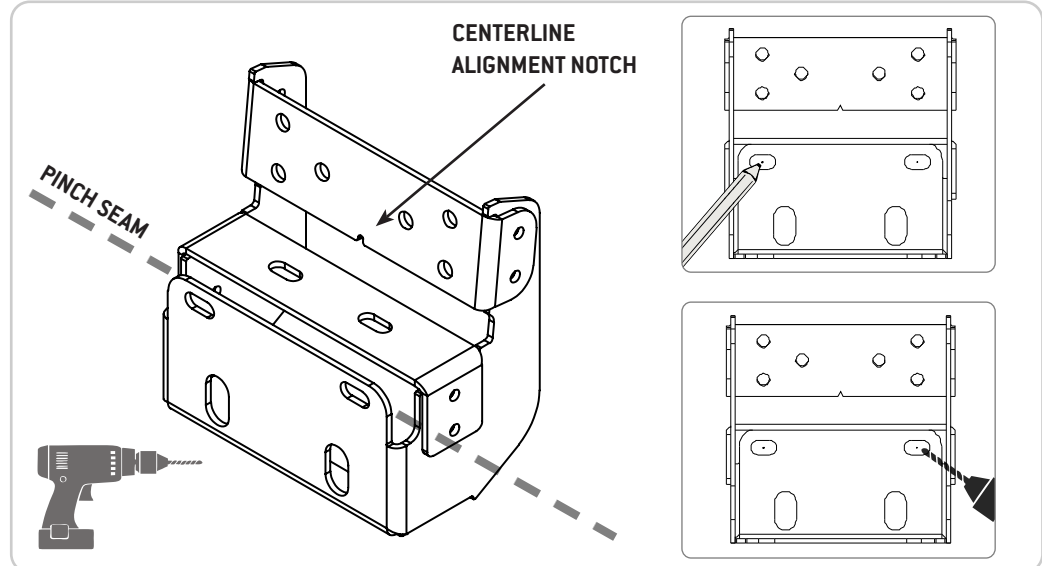
NOTE - The four mounting holes used in this step are slotted to allow for a small amount of lateral adjustment if necessary.

NOTE - There is a notch cut out into the upper portion of the bracket to aid in this alignment. It is recommended that you dry fit each bracket to make sure that they won't conflict with any existing units installed on your van (i.e. heaters, a/c units, water tanks).

NOTE - For more information about how to modify the hangar bracket layout to accommodate varying types of undercarriage configurations, please refer to our Help Center of the webpage.

TOOLS REQUIRED FOR THIS STEP:

- + DRILL
- + 3/16" DRILL BIT
- + IMPACT DRIVER
- + 7/16" SOCKET
- + RATCHET
- + 9/16" SOCKET



STEP | 04B INSTALL SIDE STEPS

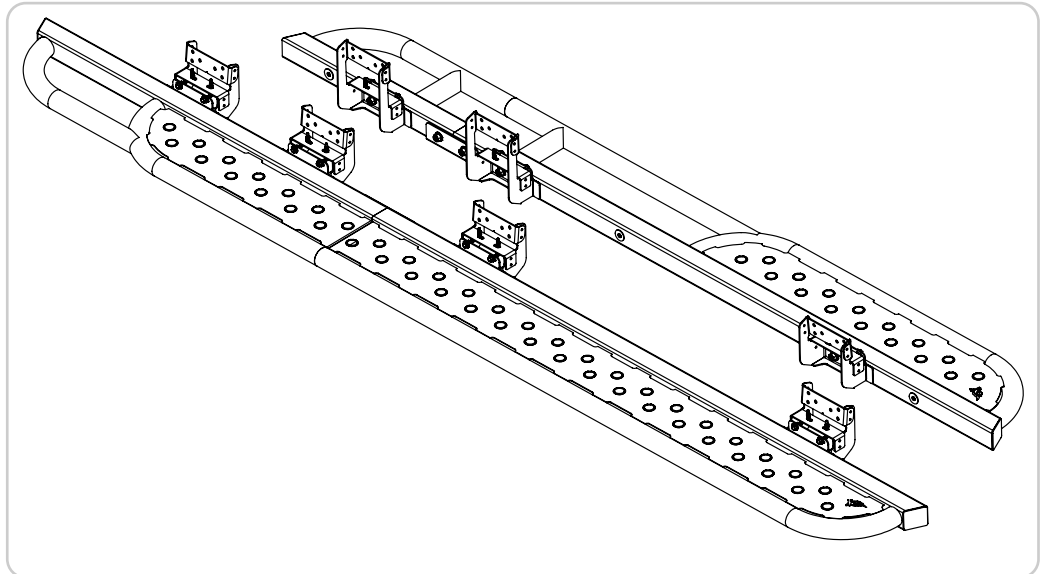
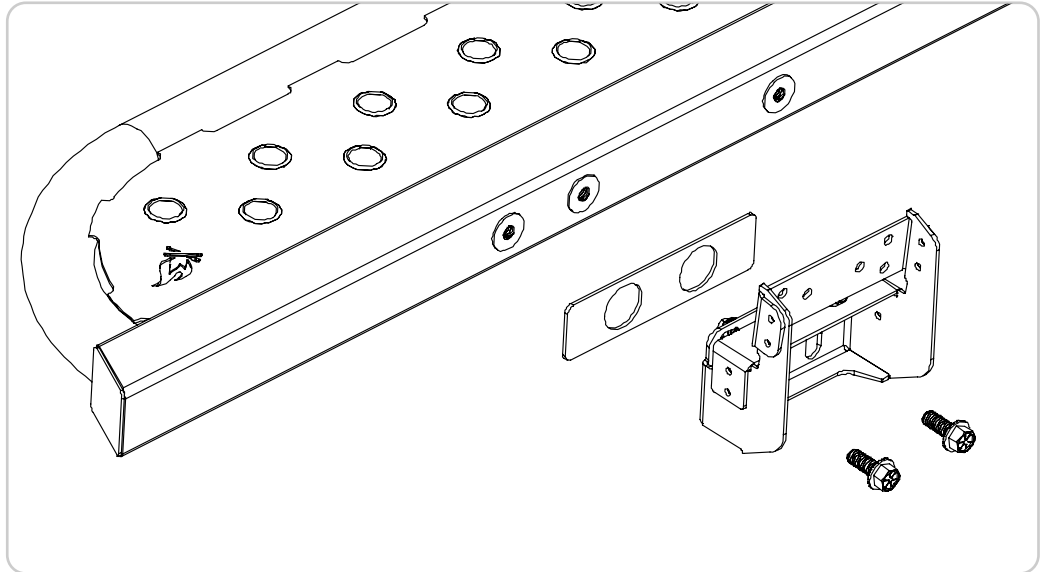
You can now attach the side step assemblies to the **Hangar Brackets**. This step will require some help from another person or the assistance of a floor jack to keep the side step assembly up off the ground and aligned to the Hangar Brackets.

4.6b Place a **Double Bracket Spacer Plate** between the side step assembly and the Hangar Bracket as shown. Apply Loctite to two **3/8-16x1 Serrated Flanged Hex Head Screws** and loosely thread them into place, sandwiching the Spacer Plate between the weldment assembly and the Hangar Bracket.

4.7b Repeat this process for all Hangar Brackets on each side of the van and proceed to tighten down the bolts using a 9/16" Socket. The steps should now be hanging freely from the sides of your van, but will need reinforced by installing the remaining braces.

TOOLS REQUIRED FOR THIS STEP:

- + RATCHET
- + 9/16" SOCKET
- + LOCTITE



STEP | 04B INSTALL SIDE STEPS

4.8b Start by installing **3/8 Rivet Nuts** into the passenger side of the van undercarriage using a **Rivet Nut Tool** with a **3/8-16 Mandrel**.

4.9b Once you've installed the Rivet Nuts, you can attach the **Passenger Side Braces**. There are two styles of Passenger Braces; **P1 & P2**. Refer to the first image on the right for locations. Fit the **P1 Side Brace** to the Rivet Nut and loosely thread a **3/8-16x1 Serrated Flanged Hex Head Screw**, again applying Loctite.

4.10b Sandwich a **Single Bracket Spacer Plate** between the brace and step assembly while threading another 3/8 Screw loosely into place.

4.11b Repeat the process for the **P2 Side Braces** and once complete, tighten down all the screws before moving on to the driver's side.

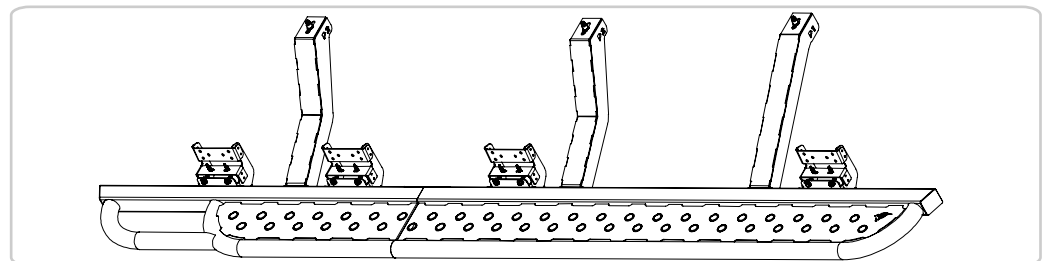
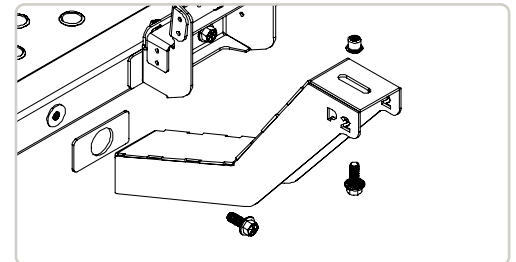
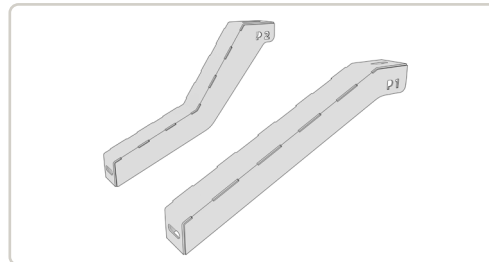
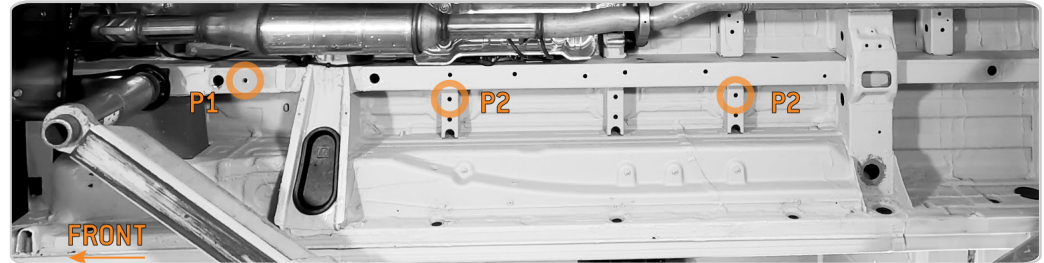
NOTE - We recommend using a *pneumatic or electric drill adapter rivet nut tool for this, although a manual rivet nut tool can work if you have enough ground clearance. We like the Astro Tools ADN38 XL model for a drill adapter. Pictured for reference.*

NOTE - The locations for these Rivet Nuts are circled in the first image to the right. It is always a good idea to double check your Rivet Nuts once installed to ensure they do not fall out or spin.

NOTE - Unlike the Passenger side, installing braces for the Driver's side will first require you to drill some holes before you can proceed to the application of Rivet Nuts.

TOOLS REQUIRED FOR THIS STEP:

- + RIVET NUT TOOL (WITH 3/8-16 MANDREL)
- + RATCHET
- + 9/16" SOCKET
- + LOCTITE



STEP | 04B INSTALL SIDE STEPS

4.12b Start by installing **3/8 Rivet Nuts** into the passenger side of the van undercarriage using a **Rivet Nut Tool** with a **3/8-16 Mandrel**.

4.13b Once you've installed the Rivet Nuts, you can attach the **Passenger Side Braces**. There are two styles of Passenger Braces; **P1 & P2**. Refer to the first image on the right for locations. Fit the **P1 Side Brace** to the Rivet Nut and loosely thread a **3/8-16x1 Serrated Flanged Hex Head Screw**, again applying Loctite.

4.14b Sandwich a **Single Bracket Spacer Plate** between the brace and step assembly while threading another 3/8 Screw loosely into place.

4.15b Repeat the process for the **P2 Side Braces** and once complete, tighten down all the screws before moving on to the driver's side.

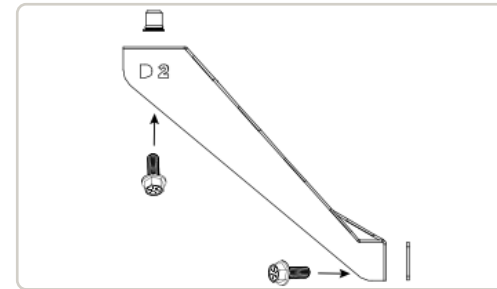
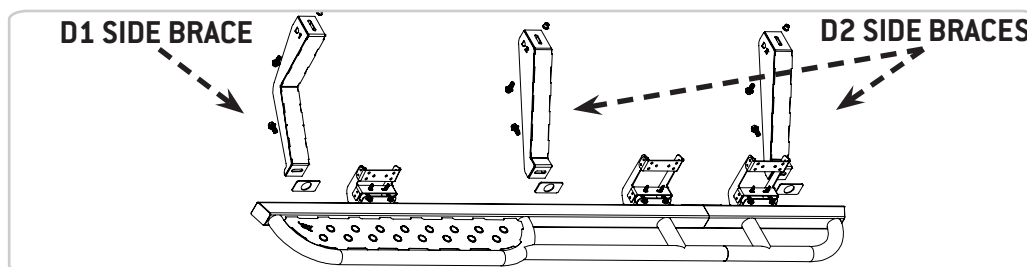
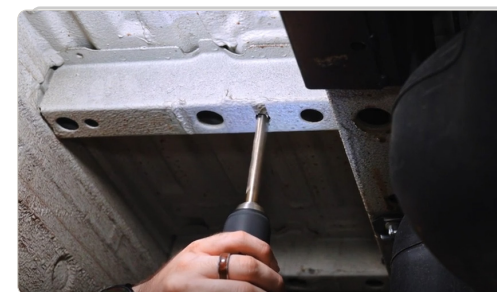
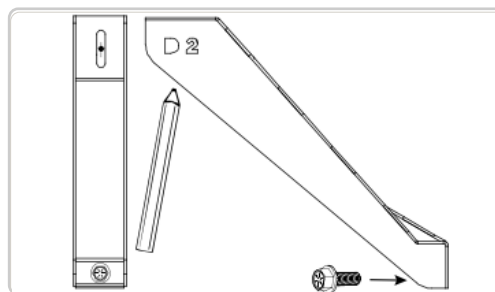
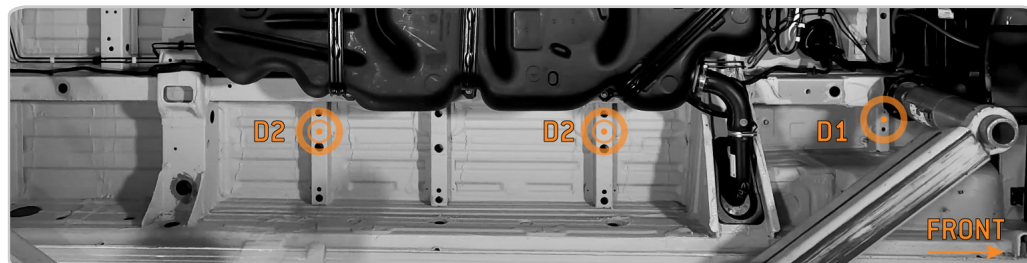
NOTE - We recommend using a *pneumatic or electric drill adapter rivet nut tool* for this, although a manual rivet nut tool can work if you have enough ground clearance. We like the *Astro Tools ADN38 XL model* for a drill adapter. Pictured for reference.

NOTE - The locations for these Rivet Nuts are circled in the first image to the right. It is always a good idea to double check your Rivet Nuts once installed to ensure they do not fall out or spin.

NOTE - Unlike the Passenger side, installing braces for the Driver's side will first require you to drill some holes before you can proceed to the application of Rivet Nuts.

TOOLS REQUIRED FOR THIS STEP:

- + RIVET NUT TOOL
- + IMPACT DRIVER
- + 9/16" SOCKET
- + DRILL
- + 3/16" DRILL BIT
- + 17/32" DRILL BIT
- + RATCHET
- + LOCTITE



STEP | 04B INSTALL SIDE STEPS

There are two styles of **Driver Side Braces**; **D1 & D2**. Refer to first image on the right for locations.

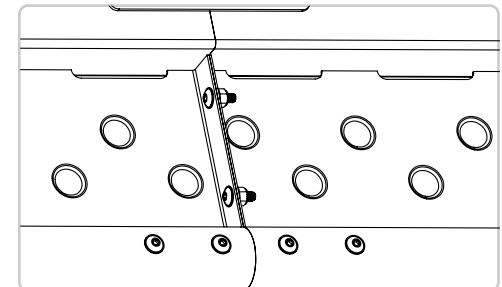
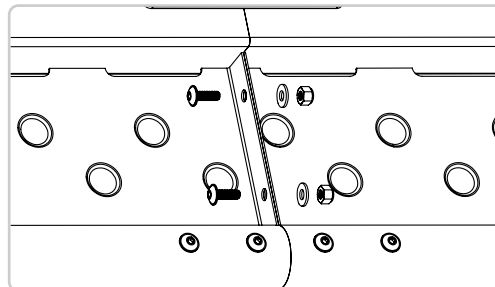
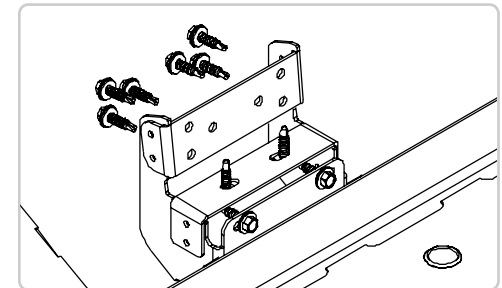
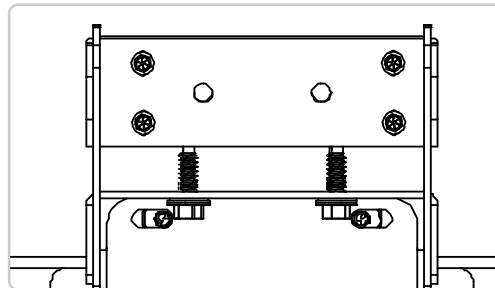
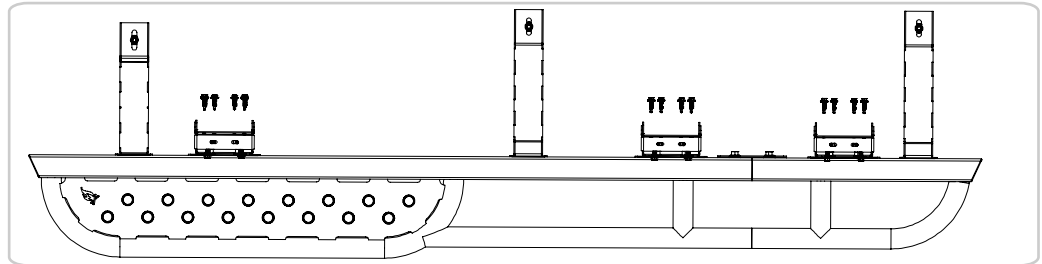
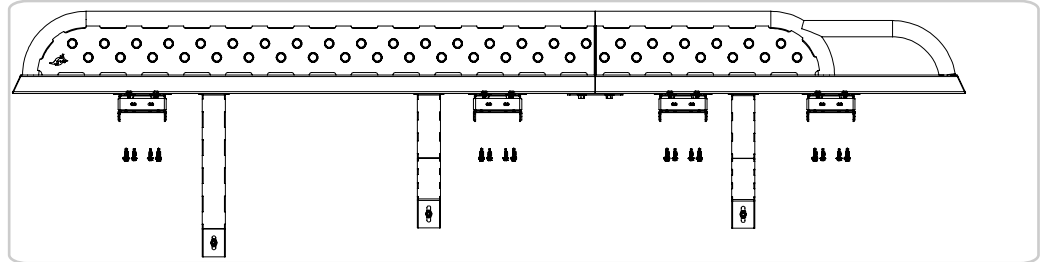
4.16b To mark the locations for drilling, fit the **D1 Brace** to the side step assembly and thread in a **3/8-16x1 Serrated Flanged Hex Head Screw** firmly in place. Then, pressing the brace up against the van body, mark the center of the upper mounting slot to drill your hole. Repeat this process for both **D2 Braces**.

4.17b Once your spots are marked, remove the braces and drill a pilot hole using a 3/16" Bit. Continue by drilling out your rivet nut hole using a 17/32" Bit. Clean drill holes (rust preventative paint is recommended) and install your Rivet Nuts using a Rivet Nut Tool.

4.18b Once you've installed the Rivet Nuts, you can attach the driver side braces just like the passenger side, sandwiching the **Single Bracket Spacer Plate** between the brace and weldment assembly before tightening it together using Loctite and **3/8-16 Hex Head Screws**.

TOOLS REQUIRED FOR THIS STEP:

- + IMPACT DRIVER
- + 7/16" SOCKET
- + 5/32" ALLEN WRENCH



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